

5 lb
Cm

10. (Amended) A method as in claim 9, wherein said virus is selected from the group consisting of hepatitis C virus (i.e., HCV), hepatitis D virus, hepatitis E virus, hepatitis G virus, hand-foot-and-mouth disease virus, a flavivirus (e.g., yellow fever virus, West Nile virus, Japanese encephalitis virus, dengue virus), a togavirus (e.g., alpha-virus, rubivirus, arterivirus, rubella virus) a pestivirus (e.g., hog cholera virus, bovine diarrhea virus), a paramyxovirus (e.g., parainfluenza virus, measles virus, mumps virus), an orthomyxovirus (e.g., human influenza virus, avian influenza virus, equine influenza virus, swine influenza virus), a rhabdovirus (e.g., rabies virus, vesicular stomatitis virus), a picornavirous (e.g., poliovirus, Cocksackie virus, echovirus, bovine enterovirus, porcine enterovirus, simian enterovirus, mouse encephalitis virus, human rhinovirus, bovine rhinovirus, equine rhinovirus, foot and mouth disease virus, hepatitis A virus), a coronavirus (e.g., human coronavirus, avian infectious bronchitis virus, mouse hepatitis virus, porcine transmissible gastroenteritis virus), an arenavirus (e.g., lymphocytic choriomeningitis virus, lassa virus, Korean hemorrhagic fever virus), a retrovirus (e.g., HTLV: human adult leukemia virus, HIV: AIDS virus, feline leukemia sarcoma virus, bovine leukemia virus, Rous sarcoma virus), a reovirus (e.g., rotavirus), a calcivirus (e.g., Norwalk virus), a bunyavirus (e.g., renal syndrome hemorrhagic fever virus), a phyllovirus (e.g., Ebola virus, Marburg virus), hepatitis B virus (HBV), a pox virus (e.g., vaccinia virus), alastrim virus, cowpox virus, smallpox virus[]], a parvovirus (e.g., human parvovirus, porcine parvovirus, bovine parvovirus, canine parvovirus, a feline leucopenia virus, Aleutian mink disease virus), a papovavirus (e.g., papilloma virus, polyoma virus), adenovirus, a herpes virus (e.g., herpes simplex virus, cytomegalovirus, chickenpox herpes zoster virus, EB virus, equine herpes virus, feline herpes virus, Marek's disease virus) and African swine cholera virus.

Claim 11, line 1, change "claim 1" to --claim 31--.

Add new claims 31-41.

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--31. A method for treating a virus-containing sample to obtain a sample suitable for detection of virus by a probe, comprising the steps of:

(1) treating a virus-containing sample with a treatment solution containing (a) an anionic surfactant and (b) an agent selected from the group consisting of an amphoteric surfactant, a nonionic surfactant and a protein denaturant; and

(2) obtaining a treated virus-containing sample in which the virus particle is disrupted, the virus antigen is exposed or released; and antibodies against the virus antigen, if present in the sample, that interfere with a detection reaction, are inactivated, and which sample can be readily subjected to an immunoassay using a probe without affecting the probe.

32. A method for treating a virus-containing sample to obtain a sample suitable for detection of virus by a probe, comprising the step of:

(1) treating a virus-containing sample with a treatment solution comprising (a) an anionic surfactant, (b) an amphophetic³ surfactant, and (c) an agent selected from the group consisting of a nonionic surfactant and a protein denaturant; and

(2) obtaining a treated virus-containing sample in which the virus particle is disrupted, the viral antigen is exposed or released; and antibodies against the viral antigen, if present in the sample, that interfere with a detection reaction, are inactivated; and which sample can be readily subjected to an immuno assay using a probe without affecting the probe.

33. A method for treating a virus-containing sample to obtain a sample suitable for detection of virus by a probe, comprising the steps of:

(1) treating a virus-containing sample with a treatment solution containing (a) anionic surfactant, (b) an amphoteric surfactant, (c) a nonionic surfactant and (d) a protein denaturant; and

(2) obtaining a treated virus-containing sample in which the virus particle is disrupted, the viral antigen is exposed or released; and antibodies against the viral antigen, if present in the sample, that interfere with a detection reaction, are inactivated; and which sample can be readily subjected to an immunoassay using a probe without affecting the probe.

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CH > 34. A method according to claim 32, wherein said treatment solution further contains urea.

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anti 35. A method according to claim 32, wherein said virus is a virus which forms virus particles having a structure comprising a structural protein encapsulating genomic RNA or DNA and a membrane protein or lipid membrane surround it.

36. A method according to claim 35, wherein said virus is selected from the group consisting of hepatitis C virus (i.e., HCV), hepatitis D virus, hepatitis E virus, hepatitis G virus, hand-foot-and-mouth disease virus, a flavivirus (e.g., yellow fever virus, West Nile virus, Japanese encephalitis virus, dengue virus), a togavirus (e.g., alpha-virus, rubivirus, arterivirus, rubella virus), a pestivirus (e.g., hog cholera virus, bovine diarrhea virus), a paramyxovirus (e.g., parainfluenza virus 1, 2, 3, 4, canine distemper virus, Newcastle disease virus, RS virus, rinderpest virus, simian parainfluenza virus, measles virus, mumps virus), an orthomyxovirus (e.g., human influenza virus, avian influenza virus, equine influenza virus, swine influenza virus), a rhabdovirus (e.g., rabies virus, vesicular stomatitis virus), a picornavirus (e.g., poliovirus, Coxsackie virus, echovirus, bovine enterovirus, porcine enterovirus, simian enterovirus, mouse encephalitis virus, human rhinovirus, bovine rhinovirus, equine rhinovirus, foot and mouth disease virus, hepatitis A virus), a coronavirus (e.g., human coronavirus, avian infectious bronchitis virus, mouse hepatitis virus, porcine transmissible gastroenteritis virus), an arenavirus (e.g., lymphocytic choriomeningitis virus, lassa virus, Korean hemorrhagic fever virus), a retrovirus (e.g., HTLV: human adult leukemia virus, HIV: AIDS virus, feline leukemia sarcoma virus, bovine leukemia virus, Rous sarcoma virus),

a reovirus (e.g., rotavirus), a calcivirus (e.g., Norwalk virus), a bunyavirus (e.g., renal syndrome hemorrhagic fever virus), a phyllovirus (e.g., Ebola virus, Marburg virus), hepatitis B virus (i.e., HBV), a pox virus (e.g., vaccinia virus, alastrim virus, cowpox virus, smallpox virus), a parvovirus (e.g., human parvovirus, porcine parvovirus, bovine parvovirus, canine parvovirus, feline leucopenia virus, Aleutian mink disease virus), a papovavirus (e.g., papilloma virus, polyoma virus), adenovirus, a herpes virus (e.g., herpes simplex virus, cytomegalovirus, chickenpox herpes zoster virus, EB virus, equine herpes virus, feline herpes virus, Marek's disease virus) and African swine cholera virus.

37. A method according to claim 32, wherein said virus is selected from the group consisting of hepatitis C virus (HCV) and hepatitis B virus (HBV).

38. A method according to claim 33, wherein said treatment solution further contains urea.

39. A method according to claim 35, wherein said virus is a virus which forms virus particles having a structure comprising a structural protein encapsulating genomic RNA or DNA and a membrane protein or lipid membrane surrounding it.

40. A method according to claim 39, wherein said virus is selected from the group consisting of hepatitis C virus is selected from the group consisting of hepatitis C virus (i.e., HCV), hepatitis D virus, hepatitis E virus, hepatitis G virus, hand-foot-and-mouth disease virus, a flavivirus (i.e., yellow fever virus, West Nile virus, Japanese encephalitis virus, dengue virus), a togavirus (e.g., alpha-virus, rubivirus, arterivirus, rubella virus), a pestivirus (e.g., hog cholera virus, bovine diarrhea virus), a paramyxovirus (e.g., parainfluenza virus 1, 2, 3, 4, canine distemper virus, Newcastle disease virus, RS virus, rinderpest virus, simian parainfluenza virus, measles virus, mumps virus), an orthomyxovirus (e.g., human influenza virus, avian influenza virus, equine influenza virus, swine influenza virus), a rhabdovirus (e.g., rabies virus, vesicular stomatitis virus), a picornavirus (e.g., poliovirus, Coxsackie virus, echovirus, bovine enterovirus, porcine enterovirus, simian enterovirus, mouse encephalitis virus, human

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rhinovirus, bovine rhinovirus, equine rhinovirus, foot and mouth disease virus, hepatitis A virus), a coronavirus (e.g., human coronavirus, avian infectious bronchitis virus, mouse hepatitis virus, porcine transmissible gastroenteritis virus), an arenavirus (e.g., lymphocytic choriomeningitis virus, lassa virus, Korean hemorrhagic fever virus), a retrovirus (e.g., HTLV: human adult leukemia virus, HIV: AIDS virus, feline leukemia sarcoma virus, bovine leukemia virus, Rous sarcoma virus), a reovirus (e.g., rotavirus), a calcivirus (e.g., Norwalk virus), a bunyavirus (e.g., renal syndrome hemorrhagic fever virus), a phyllovirus (e.g., Ebola virus, Marburg virus), hepatitis B virus (i.e., HBV), a pox virus (e.g., vaccinia virus, alastrim virus, cowpox virus, smallpox virus), a parvovirus (e.g., human parvovirus, porcine paravovirus, bovine parvovirus, canine parvovirus, feline leucopenia virus, Aleutian mink disease virus), a papovavirus (e.g., papilloma virus, polyoma virus), adenovirus, a herpes virus (e.g., herpes simplex virus, cytomegalovirus, chickenpox herpes zoster virus, EB virus, equine herpes virus, feline herpes virus, Marek's disease virus) and African swine choler virus.

41. A method according to claim 33, wherein said virus is selected form the group consisting of hepatitis C virus (HCV) and hepatitis B virus (HBV).--

REMARKS

Applicants have amended the claims as noted above with the cancellation of certain claims as well as the addition of new claims 31-41. It is believed that the present invention is now more clearly defined.

As to the rejections raised by the Examiner, applicants offer the following comments.

The present invention is directed to a method for treatment of a virus-containing sample prior to assay for detecting the virus to obtain a sample suitable for the assay.